



# Toxic Substances and Areas of Concern

*funded by the Great Lakes Restoration Initiative*

NOAA is working to confront toxics in the Great Lakes. While concentrations of some persistent toxic substances have been significantly reduced in the Great Lakes over the past 30 years, toxins such as polychlorinated biphenyls (PCBs) are still presently above levels considered safe for humans and wildlife, warranting fish consumption advisories in all five Great Lakes. In addition, chemicals of emerging concern, such as pharmaceuticals, are now being detected in the Great Lakes. NOAA is evaluating hazards from toxic substances so that regulatory and management responses can protect human and ecosystem health.



## Enhanced NOAA Mussel Watch in the Great Lakes

NOAA's Mussel Watch Program monitors the status and trends of chemical

contamination and associated effects in US coastal waters, including the Great Lakes. GLRI funds have allowed NOAA to expand monitoring of chemical contamination in Great Lakes Areas of Concern (AOCs). The tissues of mussels, which are filter feeders, are a valuable resource for analyzing chemical and biological contaminant trends. Expanding the MWP to these most vulnerable areas is an important complement to AOC remediation investments.

## Modeling Atmospheric Mercury Deposition

Regional and global sources continue to deposit mercury to the Great Lakes via the air. Mercury can affect the human nervous system, fish, and wildlife. The most common way that people are exposed to mercury is by eating contaminated fish or shellfish. NOAA is using model output to determine the amount, source, and types of atmospheric mercury deposited in the Great Lakes. Project results will be critical to identifying actions and policies to reduce atmospheric mercury loading in the Great Lakes.

## Great Lakes Sediment Contamination Database

High-quality data is critical for making good decisions to improve the environment and human health. Thanks to the GLRI, NOAA has been able to expand its Query Manager database, which is a compilation of sediment and wildlife contamination data from a variety of sources. This gives decision makers and concerned citizens the ability to query across the most comprehensive and highest quality environmental contaminant dataset available. The outcome: accelerated development, implementation, and monitoring of sediment cleanup and restoration projects in the region.

## Assessment of AOCs Targeted for Remediation

NOAA is working with partners to advise on and support the design and implementation of sediment removal and habitat improvement projects in Great Lakes Areas of Concern. These projects will remove pathways and mechanisms by which contaminants impair habitat and contribute to contaminant-related beneficial use impairments (BUIs).



For more information contact:  
Rebecca Held Knoche  
NOAA GLRI Program Coordinator  
301-563-1166 [rebecca.held@noaa.gov](mailto:rebecca.held@noaa.gov)